

CLAIMS

1. A method in a communication apparatus (10) for maintaining an established connection between said communication apparatus and a network node of a serving communication network, characterized by the steps of:
- receiving an acceptance message from said network node in response to a request message relating to a first procedure transmitted to said network node;
- determining whether any request relating to a second procedure is pending; and
- transmitting to said network node, if any request is pending when said acceptance message is received, a maintaining request for maintaining said connection.
2. The method according to claim 1, wherein the step of transmitting said maintaining request is executed if the pending request is received after the request relating to the first procedure is transmitted and before said acceptance message is received.
3. The method according to claim 1, wherein the maintaining request is incorporated into a response message, which is transmitted in response to receiving said acceptance message.
4. The method according to claim 3, wherein the response message is an acknowledgement message.
5. The method according to any of the previous claims, further comprising the step of maintaining said established connection until the connection is no longer in use.

6. The method according to any of the previous claims, wherein the established connection is a packet switched or a circuit switched signaling connection.

5 7. The method according to any of the previous claims, wherein the method is comprised in a mobility management protocol of a wireless communication interface of the electronic communication apparatus, and wherein a mobility management unit handles the signaling to the
10 network node.

8. The method according to any of the previous claims, wherein the first and second procedures are mobility management procedures.

15 9. The method according to any of the claims 1 to 8, wherein the maintaining request is a Follow-On Request (FOR).

20 10. A method in a communication network node for maintaining a connection between said network node and a communication apparatus being served, the method comprising
transmitting to said communication apparatus an acceptance message in response to receiving from said
25 communication apparatus a request relating to a specific procedure, and

maintaining the connection a predetermined first period of time after the acceptance message is transmitted, characterized by:

30 maintaining the connection a second period of time if a maintaining request is received from said communication apparatus within said first period of time.

11. The method according to claim 10, further
35 comprising the steps of:

receiving the maintaining request, and in response thereto maintaining the established connection until the connection is no longer in use.

5 12. The method according to claim 10 or 11, wherein the acceptance message comprises information requiring an acknowledgement message, the method further comprises the step of receiving the acknowledgement message, and
10 determining whether said acknowledgement message comprises the maintaining request.

15 13. The method according to any of the claims 10 to 12, wherein the established connection is a packet switched or a circuit switched signaling connection.

15 14. The method according to any of the claims 10 to 13, wherein the method is comprised in a mobility management protocol of a wireless interface of the communication network, and wherein a mobility management
20 unit handles the signaling to the communication apparatus (10).

25 15. The method according to any of the claims 10-14, wherein the specific procedure is a mobility management procedure.

30 16. The method according to any of the claims 10 to 15, wherein the maintaining request is a Follow-On Request (FOR).

35 17. A control device for a communication apparatus for maintaining an established connection to a communication network, the control device being adapted to issue a request to maintain said connection, characterized by:

receiver means (18) arranged to receive an acceptance message in response to transmitting a request relating to a first procedure; and

issuing means (30) arranged to issue, if any request
5 relating to a second procedure is pending when said acceptance message is received, a maintaining request for maintaining said connection.

18. The control device according to claim 17, wherein
10 said issuing means (30) is arranged to issue said maintaining request if the pending request is received after the request relating to the first procedure is transmitted and before said acceptance message is received.

15 19. The control device according to claim 17 or 18, wherein said issuing means (30) is arranged to incorporate the maintaining request into a response message, and arranged to issue said response message in response to receiving said acceptance message.

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20. The control device according to claim 19, wherein the response message is an acknowledgement message.

21. The control device according to any of the claims
25 17 to 20, comprising a memory (31) for storing a mobility management protocol of a wireless communication interface, according to which the requests are transmitted, and the acceptance message is received.

30 22. A mobile communication apparatus (10) comprising a receiver (18) and a transmitter (17), for communicating with a network, characterized by a control device according to any of the claims 16 to 19.

23. The mobile communication apparatus according to claim 22, wherein the apparatus (10) is a mobile radio terminal, a pager, a communicator, a smartphne, or an electronic organizer.

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24. The mobile communication apparatus according to claim 22, wherein the apparatus is a mobile telephone (10).

25. A control device for a network node for
10 maintaining a connection to a communication apparatus (10), the control device being adapted to issue an acceptance message in response to a request relating to a specific procedure, the control device comprising

an issuing means (50) arranged to issue the
15 acceptance message in response to receiving the request from the communication apparatus; and

a waiting means arranged to wait a predetermined first period of time after the acceptance message is transmitted to the communication apparatus;

20 **characterized** in that:

the waiting means is arranged to wait a second period of time if a maintaining request is received from the communication apparatus within said predetermined first period of time.

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26. The control device according to claim 25, wherein said waiting means is arranged to wait until the second period of time ends, which is when the connection is no longer in use.

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27. The control device according to claim 25 or 26, wherein said issuing means is arranged to incorporate into the acceptance message information that requires an acknowledgement message.

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28. The control device according to any of the claims 25 to 27, wherein said waiting means is arranged to determine whether a received response message comprises a request to maintain the connection, and if so maintain said
5 connection.

29. The control device according to any of the claims 25 to 28, comprising a memory (53) for storing a mobility management protocol of a wireless communication interface,
10 according to which the requests and messages are processed.

30. A network node comprising a transmitter unit (52) and a receiver unit (51) for communicating with a mobile communication apparatus (10), **characterized** by a control
15 device according to any of the claims 23 to 27.

31. The network node according to claim 30, wherein said node is a serving GPRS support node (SGSN), a gateway GPRS support node (GGSN), a mobile switching center/
20 visitor location register (MSC/VLR), a gateway mobile switching center (GMSC) or a home location register (HLR).

32. A computer program product embodied on a computer readable medium, comprising computer readable instructions
25 for carrying out the method according to any of the claims 1-9 when run by an electronic device having digital computer capabilities.

33. A computer program product embodied on a computer readable medium, comprising computer readable instructions
30 for carrying out the method according to any of the claims 10-16 when run by an electronic device having digital computer capabilities.